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EXAMINER	
BELLO, AGUSTIN	
ART UNIT	**PAPER NUMBER**
2633	

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/075,780	YOO, SUNG-JOO	
	Examiner	Art Unit	
	Agustin Bello	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 February 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 February 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the detection of said payload of claim 14 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 4 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In this case, the applicant's specification is silent to the actual method by which wavelength conversion takes place without conversion of the payload to electrical form.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The applicant claims "the modulated optical signal" in line 3. However, it is not clear to which modulated optical signal the applicant is referring.

6. Claim 2 recites the limitation "the optical transducer" and "the modulated optical signal" in lines 2 and 3 respectively. There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-11 and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (U.S. Patent No. 6,525,850) in view of Mizrahi (U.S. Patent No. 6,067,181).

Regarding claims 1, 6, and 19, Chang teaches in an optical communication system, a method for extracting information from a baseband optical signal comprising: applying, to an optical fiber, a subcarrier multiplexed baseband optical signal (column 6 line 25 - column 7 line 30), said subcarrier multiplexed baseband optical signal composed of a modulated optical carrier including a payload without control information (e.g. data payload separate from header subcarrier, column 6 lines 43-47 and column 7 lines 3-5) and a modulated optical subcarrier including control information without payload (e.g. header information at a subcarrier separated from the data payload column 7 lines 3-5), the modulated optical subcarrier being at a subcarrier frequency which is separated from the modulation bandwidth of the optical carrier (column 7 lines 3-5), receiving the subcarrier multiplexed baseband optical signal, optically separating the modulated optical subcarrier from the modulated optical carrier, then directing the modulated optical subcarrier to an optical energy transducer (column 10 lines 54-60, column 11 lines 18-22, 30-36, column 18 lines 19-41). Chang differs from the claimed invention in that Chang fails to specifically teach using a three port optical circulator coupled to a Bragg grating to separate the modulated optical subcarrier from the modulated optical carrier by receiving the subcarrier multiplexed baseband optical signal at an input port of an optical circulator; applying the subcarrier multiplexed baseband optical signal via an extraction port of the optical circulator to a fiber Bragg grating; optically separating the modulated optical subcarrier in the fiber Bragg grating while reflecting the modulated optical carrier back to the extraction port of the optical circulator; and outputting the modulated optical carrier to an output port of the optical circulator. However, separating signals of a multiplexed signal via a three-port circulator coupled to a Bragg grating is very well known in the art. Mizrahi teaches a system wherein a multiplexed

signal is received at an input port of an optical circulator (reference numeral 32 in Figure 1); applied via an extraction port (reference numeral 33 in Figure 1) of the optical circulator to a fiber Bragg grating (reference numeral 40 in Figure 1); the signal to be separated then being optically separating in the fiber Bragg grating while the signal to be propagated along the optical fiber is reflected back to the extraction port (reference numeral 33 in Figure 1) of the optical circulator; the signal to be propagated being output to an output port of the optical circulator (reference numeral 34 in Figure 1). One skilled in the art would have been motivated to use the circulator/Bragg grating device of Mizrahi in the system of Chang in order to more efficiently separate the data payload from the subcarrier signal of the header. One skilled in the art would also have recognized that use of the device of Mizrahi in the system of Chang, for instance at the output of the dispersion compensator (reference numeral 1205 in Figure 12), would have eliminated the need for the elements in Chang which serve to filter out the data payload from the subcarrier frequency (e.g. filter 930 in Figure 9) and vice-versa (e.g. filter 830 in Figure 8), thereby reducing the overall cost of the system of Chang. Furthermore, it is clear that the device of Mizrahi could have easily been incorporated in to the system of Chang without departing from the scope of the invention of Chang. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have incorporated the optical circulator and Bragg grating arrangement of Mizrahi into the system of Chang in order to efficiently separate the subcarrier from the data payload at less cost.

Regarding claim 2, Chang teaches the method according to claim 1 further comprising: outputting a modulated electrical signal (reference numeral 1211 in Figure 12) from the optical transducer (reference numeral 1210 in Figure 12) which is proportional to modulation of the

modulated optical signal; and detecting the information which modulated the electrical signal (reference numeral 1223 in Figure 12).

Regarding claims 3 and 8, Chang teaches in an optical communication system, a method for swapping control information of a baseband optical signal comprising: applying, to an optical fiber, a subcarrier multiplexed baseband optical signal (column 6 line 25 - column 7 line 30), said subcarrier multiplexed baseband optical signal composed of a modulated optical carrier including a payload without control information (e.g. data payload separate from header subcarrier, column 6 lines 43-47 and column 7 lines 3-5) and a modulated optical subcarrier including control information without payload (e.g. header information at a subcarrier separated from the data payload column 7 lines 3-5), the modulated optical subcarrier being at a subcarrier frequency which is separated from the modulation bandwidth of the optical carrier (column 7 lines 3-5), receiving the subcarrier multiplexed baseband optical signal, optically separating the modulated optical subcarrier from the modulated optical carrier, directing the modulated optical subcarrier to an optical energy transducer (column 10 lines 54-60, column 11 lines 18-22, 30-36, column 18 lines 19-41), then applying the modulated optical carrier to an optical modulator adapted for writing new subcarrier modulated control information (column 21 lines 51-62). Chang differs from the claimed invention in that Chang fails to specifically teach using a three port optical circulator coupled to a Bragg grating to separate the modulated optical subcarrier from the modulated optical carrier by receiving the subcarrier multiplexed baseband optical signal at an input port of an optical circulator; applying the subcarrier multiplexed baseband optical signal via an extraction port of the optical circulator to a fiber Bragg grating; optically separating the modulated optical subcarrier in the fiber Bragg grating while reflecting the

modulated optical carrier back to the extraction port of the optical circulator; and outputting the modulated optical carrier to an output port of the optical circulator. However, separating signals of a multiplexed signal via a three-port circulator coupled to a Bragg grating is very well known in the art. Mizrahi teaches a system wherein a multiplexed signal is received at an input port of an optical circulator (reference numeral 32 in Figure 1); applied via an extraction port (reference numeral 33 in Figure 1) of the optical circulator to a fiber Bragg grating (reference numeral 40 in Figure 1); the signal to be separated then being optically separating in the fiber Bragg grating while the signal to be propagated along the optical fiber is reflected back to the extraction port (reference numeral 33 in Figure 1) of the optical circulator; the signal to be propagated being output to an output port of the optical circulator (reference numeral 34 in Figure 1). One skilled in the art would have been motivated to use the circulator/Bragg grating device of Mizrahi in the system of Chang in order to more efficiently separate the data payload from the subcarrier signal of the header. One skilled in the art would also have recognized that use of the device of Mizrahi in the system of Chang, for instance at the output of the dispersion compensator (reference numeral 1205 in Figure 12), would have eliminated the need for the elements in Chang which serve to filter out the data payload from the subcarrier frequency (e.g. filter 930 in Figure 9) and vice-versa (e.g. filter 830 in Figure 8), thereby reducing the overall cost of the system of Chang. Furthermore, it is clear that the device of Mizrahi could have easily been incorporated in to the system of Chang without departing from the scope of the invention of Chang. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have incorporated the optical circulator and Bragg grating arrangement of Mizrahi into the system of Chang in order to efficiently separate the subcarrier from the data payload at less cost.

Regarding claim 4, Chang teaches a method for controlling the propagation path of a baseband optical signal comprising: applying, to an optical fiber, a subcarrier multiplexed baseband optical signal (column 6 line 25 - column 7 line 30), said subcarrier multiplexed baseband optical signal composed of a modulated optical carrier including a payload without control information (e.g. data payload separate from header subcarrier, column 6 lines 43-47 and column 7 lines 3-5) and a modulated optical subcarrier including control information without payload (e.g. header information at a subcarrier separated from the data payload column 7 lines 3-5), the modulated optical subcarrier being at a subcarrier frequency which is separated from the modulation bandwidth of the optical carrier (column 7 lines 3-5), receiving the subcarrier multiplexed baseband optical signal at the input to a routing element (e.g. network elements in the system), optically separating the modulated optical subcarrier from the modulated optical carrier, directing the modulated optical subcarrier to an optical energy transducer (column 10 lines 54-60, column 11 lines 18-22, 30-36, column 18 lines 19-41), changing the wavelength of the optical carrier for the payload in response to the control information (column 17 lines 3-15); and directing the optical carrier for the payload along one of a plurality of output paths from the routing element responsive to the control information (column 17 lines 3-15). Chang differs from the claimed invention in that Chang fails to specifically teach using a three port optical circulator coupled to a Bragg grating to separate the modulated optical subcarrier from the modulated optical carrier by receiving the subcarrier multiplexed baseband optical signal at an input port of an optical circulator; applying the subcarrier multiplexed baseband optical signal via an extraction port of the optical circulator to a fiber Bragg grating; optically separating the modulated optical subcarrier in the fiber Bragg grating while reflecting the modulated optical

carrier back to the extraction port of the optical circulator; and outputting the modulated optical carrier to an output port of the optical circulator. However, separating signals of a multiplexed signal via a three-port circulator coupled to a Bragg grating is very well known in the art. Mizrahi teaches a system wherein a multiplexed signal is received at an input port of an optical circulator (reference numeral 32 in Figure 1); applied via an extraction port (reference numeral 33 in Figure 1) of the optical circulator to a fiber Bragg grating (reference numeral 40 in Figure 1); the signal to be separated then being optically separating in the fiber Bragg grating while the signal to be propagated along the optical fiber is reflected back to the extraction port (reference numeral 33 in Figure 1) of the optical circulator; the signal to be propagated being output to an output port of the optical circulator (reference numeral 34 in Figure 1). One skilled in the art would have been motivated to use the circulator/Bragg grating device of Mizrahi in the system of Chang in order to more efficiently separate the data payload from the subcarrier signal of the header. One skilled in the art would also have recognized that use of the device of Mizrahi in the system of Chang, for instance at the output of the dispersion compensator (reference numeral 1205 in Figure 12), would have eliminated the need for the elements in Chang which serve to filter out the data payload from the subcarrier frequency (e.g. filter 930 in Figure 9) and vice-versa (e.g. filter 830 in Figure 8), thereby reducing the overall cost of the system of Chang. Furthermore, it is clear that the device of Mizrahi could have easily been incorporated in to the system of Chang without departing from the scope of the invention of Chang. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have incorporated the optical circulator and Bragg grating arrangement of Mizrahi into the system of Chang in order to efficiently separate the subcarrier from the data payload at less cost.

Regarding claim 5, Chang teaches the method according to claim 4 further comprising the step of modulating the directed optical carrier to add a subcarrier containing new control information (column 21 lines 51-62).

Regarding claim 7, Chang teaches the device according to claim 6 wherein the optical energy transducer is a photodetector (reference numeral 910 in Figure 9) for generating a electrical signal proportional to the signal of the modulated subcarrier and further including: a detector for detecting the information modulating the electrical signal (reference numeral 1223 in Figure 12).

Regarding claim 9, Chang teaches an optical subcarrier receiver according to claim 7; a controller (reference numeral 1250 in Figure 12) for controlling other components in response to the control information extracted by said optical subcarrier receiver; and a tunable optical source (inherent in the wavelength converter taught by Chan, column 25 lines 22-26) coupled to said controller, adapted for emitting an optical signal with a modulation proportional to the modulated optical carrier at a wavelength dictated by the control information on the said control information (column 15 lines 53-67 and column 17 lines 3-18).

Regarding claim 10, Chang differs from the claimed invention in that Chang fails to specifically teach that the tunable optical source comprises: a tunable laser optically coupled to a semiconductor optical amplifier. However, tunable optical source comprising a tunable laser optically coupled to semiconductor optical amplifier is very well known in the art. One skilled in the art would have been motivated to use a tunable optical source comprising a tunable laser optically coupled to semiconductor optical amplifier since both elements are readily available and relatively inexpensive. Furthermore, wavelength converters such as that taught by Chang

are well known to employ tunable optical sources comprising tunable lasers and optical amplifiers. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have used a tunable optical source comprising a tunable laser optically coupled to semiconductor optical amplifier.

Regarding claim 11, Chang teaches a wavelength switch (reference numeral 501 in Figure 6) having at least one input and a plurality of outputs, the switch being optically coupled to the tunable optical source (inherent for wavelength conversion taught by Chang) and adapted for directing an optical signal on any of its inputs to a specific output in accordance with the wavelength of the input signal (e.g. wavelength selective crossconnect, column 11 line 15).

Regarding Claim 13, the combination of references differs from the claimed invention in that it fails to specifically teach an array of optical modulators coupled to the outputs of the wavelength switch for modulation of additional information onto the modulated optical carrier. However, modulation of signals is very well known in the art and would have provided a means for transmission of additional information in the system of the combination of references. Furthermore, Chang discloses a modulator that adds information to the modulated optical carrier signal (column 21 lines 51-62). It would have been obvious to one skilled in the art at the time the invention was made to have coupled an array of optical modulators to the outputs of the wavelength switch for modulation of additional information onto the modulated optical carrier to allow for the transmission of additional information. Furthermore, it would have been obvious to have an array of modulators since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.*

Regarding claims 14-18 and 20, the combination of references teaches detecting using an output of said optical energy transducer (reference numeral 1210 in Figure 12 of Chang and reference numeral 45 of Figure 1 of Mizrahi) a low-frequency electrical component of said modulated optical subcarrier.

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Mizrahi and Gehler (U.S. Patent No. 6,400,872).

Regarding Claims 12, the combination of Chang and Mizrahi differs from the claimed invention in that it fails to specifically teach that the wavelength switch is an arrayed waveguide grating, Chang suggests as much in reciting a wavelength selective cross connect (column 11 line 15). Furthermore, a popular type of wavelength selective cross connect is an arrayed waveguide grating. Moreover, arrayed waveguide gratings are very well known in the art and readily available. Gehler teaches such a switch in the form of an arrayed waveguide grating which is capable of directing any of its inputs to a specific output according to the wavelength of the input signal. One skilled in the art would have been motivated to use an arrayed waveguide grating since they are known to provide excellent coupling efficiency. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use an arrayed waveguide grating as taught by Gehler as the wavelength selective cross connect taught by Chang.

Response to Arguments

10. Applicant's arguments filed 2/26/04 have been fully considered but they are not persuasive. First, the applicant's amendments to the claim 2 while helpful fail to overcome the 112 rejection in the office action. The language of claim 2 remains unclear as to which

modulated optical signal the applicant is referring. Next, although the applicant is free to exploit any perceived weaknesses in the cited reference, making arguments against a position not taken by the examiner and ignoring the rejection made in the office action fails to advance the prosecution of the instant application. In this case, it appears that the applicant has randomly chosen to argue against the examiner's rejection of the claims based on Figure 15, when in fact the examiner, as noted by the applicant, never makes a rejection based on Figure 15. Instead, the examiner's rejections are based on Figure 12 and the cited passages in the specification of the cited reference. As such, the examiner will respond only to relevant portions of the applicant's remarks.

First, the applicant argues that the Chang and Mizrahi references are not within the same areas of technology in order to be combined. However, the examiner points out that both Chang and Mizrahi are generally concerned with optical communication systems and specifically concerned with wavelength communication systems. Furthermore, Mizrahi presents an optical method of separating two optical frequencies that is particularly relevant in Chang's multiple frequency optical system. Moreover, Mizrahi presents an efficient method of separating multiple frequencies in an optical communication system that the examiner believes one skilled in the art would have appreciated and found applicable to the system of Chang. While the applicant is correct that Mizrahi is concerned with locking the wavelength of a laser, the examiner has noted and relied upon Mizrahi's use of an optical circulator/Bragg grating combination and the implications this disclosure holds in the field of optical communication. As such, the examiner maintains the combination of Mizrahi and Chang.

In further response to applicant's argument that Mizrahi is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, it is clear that Mizrahi is both in the field of Chang's endeavor and reasonably pertinent to Chang's problem of separating spectral frequencies.

Next, in response to applicant's argument that substituting Mizrahi's filter for Chang's filter produces a non-operable filter circuit, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Furthermore, this is one of many instances where the applicant has made an argument against a position not taken by the examiner in the office action.

In response to the applicant's argument that the combination of Chang and Mizrahi is unreasonable, the examiner asserts that it is in fact very reasonable to expect one skilled in the art to appreciate Mizrahi's method and apparatus for separating optical frequencies, and further consider applying Mizrahi's teaching to the system of Chang since Mizrahi discloses an efficient method for the separation of optical frequencies while Chang is concerned with the separation of optical frequencies.

Next, the applicant contends that the examiner is seeking to change the functional steps of Chang. However, the opposite is true. In the office action, the examiner simply advocates the placement of Mizrahi's circulator and grating combination after Chang's dispersion compensator (reference numeral 1205 in Figure 12) to act as a separating for the header and payload at different frequencies. Clearly, with the circulator and grating combination of Mizrahi in this position, the functional steps in Chang are not changed in the least since the circulator and grating combination of Mizrahi would provide the payload data to fiber 1206 in Figure 12 of Chang and header information to element 1210 of Chang. As such, the examiner is not seeking to change the function steps of Chang. Rather, the examiner only seeks to provide a more efficient coupling means between dispersion compensating means 1205 in Figure 12 of Chang, fiber 1206 in Figure 12 of Chang, and element 1210 of Figure 12 of Chang.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Next, the applicant argues that claims 4 and 9 are allowable since claim 4 requires changing the wavelength of the optical carrier from the payload. However, as noted in the office action, this limitation is met by Chang in column 17 lines 3-15. The applicant further asserts that

claim 4 is distinguished form the cited art with the addition of a limitation. However, the newly added limitation is not supported by the specification.

The applicant argues that since Chang fails to state that a new header is written after switching that Chang fails to meet the limitations of the claimed invention and claims 3, 5, 8, and 13 are therefore allowable. However, a clearly noted in the office action and shown in Figure 12 of Chang a new header is indeed added after the signal has been redirected to the desired output port.

In response to the applicant's argument that Chang fails to teach wavelength conversion dictated by the control information extracted from the header, the examiner notes that Chang explicitly teaches that the optical signal is routed according to the header information. If output port contention occurs wavelength conversion takes place. As such, it is clear that since the header dictates what output port the signal is to be directed, the header, when given the broadest reasonable interpretation, is also responsible for the conversion of the optical signals wavelength. Furthermore, as stated in the office action Chang inherently teaches a tunable optical source in that such a source would be needed in order to meet the requirements of wavelength conversion required when dealing with the plurality of wavelengths present in the wavelength division multiplexing system of Chang. Moreover, Chang clearly states, "Wavelength conversion, on the other hand, resolves blocking by *transmitting at an alternate wavelength* through the same path..." Clearly, a tunable optical source is present.

11. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a tunable *laser*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the

specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Agustin Bello
Examiner
Art Unit 2633

AB

JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600